THE FACTORS MAKING FEMALE GRADUATES OF DEPARTMENT OF MATHEMATICS EDUCATION OF MUHAMMADIYAH UNIVERSITY OF SURAKARTA NOT BECOME MATHEMATICS TEACHER

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By

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ABSTRACT

The purpose of this research is to describe: (1) the perceptions of female graduates of department of mathematics education of Muhammadiyah University of Surakarta about mathematic teacher profession and other profession, (2) the factors making female graduates of department of mathematics education of Muhammadiyah University of Surakarta not become mathematics teacher. The kind of this study is descriptive qualitative research. The subject in this study is the female students graduate in 2001, 2006, 2009, 2011 and 2012 academic year at the mathematics education department of Muhammadiyah University of Surakarta. Methods of collecting data used in this study are questionnaire, interview, and documentary study. Data analysis technique used in this research is the analysis of qualitative data, with Miles and Huberman models. Validity of data used in this researchs are triangulation of techniques and sources. The conclusions of this research are: (1) The female graduate of mathematics education department of UMS perception of the profession as a mathematics teacher and other profession is variety. Female graduates have the perception that the profession or career is not to be linear with the educational background ever obtained, notably mathematics education,(2) There is external factors that influences female graduates of mathematics education department of UMS do not work as a mathematics teacher at grade Junior and Senior High School (SMP/SMA).

Keywords: female graduate, perception, profession, motivation, career

1. INTRODUCTION

Education is an absolute requirement that must be fulfilled in the lifetime. By education, human being will experience the learning process. According to Purwanto in his book of *Psikologi Pendidikan* (2004: 106), he states that learning is a process and as a process, of course, there should be processed (input), and processing of results (output). Purwanto also outlines the influenced factors of the learning process can be divided into three factors i.e. (1) learners factors (*Raw Input*), (2) supporting tools factors (*Instrumental Input*) and (3) Environment factor where the learning process is happened (*Environmental Inputs*). Each of these factors consists of several components. *Raw input* consists of all learner characteristics, namely: interest, talent, intelligence, maturity, and gender. *Environmental input* includes the physical environment such as temperature, location, and buildings, and non-physical environment such as family and community. While the *instrumental input* consists of teachers, objectives, curriculum, textbook, method or learning approach, media, evaluation equipment, and infrastructure.

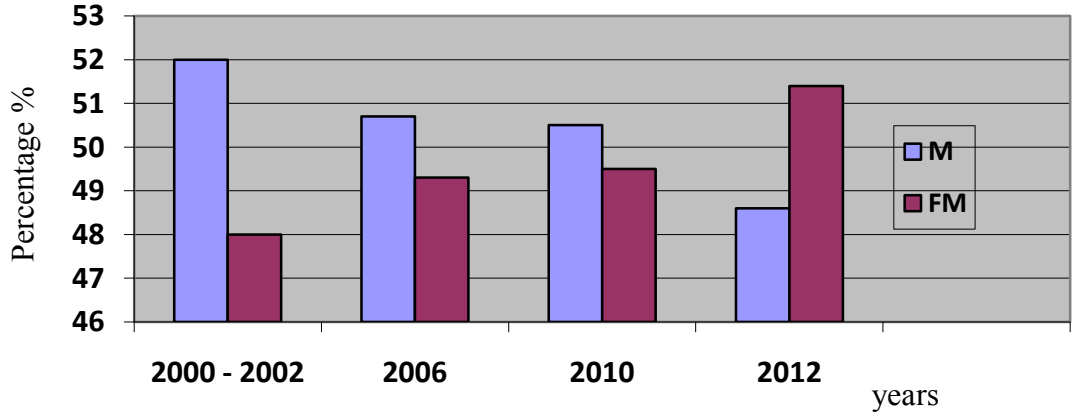
Teachers as a part of the *Instrumental Input* factor has important role in the learning process. As guided to escort the students to learn, also there are some role of teacher in face-to-face learning expressed by the Moon (1989) in Purwanto (2004: 106), that is as learning designer (*Designer of Instruction*), as Learning Manager (*Manager or Instruction*), as Director of learning, as evaluators (*Evaluators of Student Learning*) and as a counselor and as executor of the curriculum.

The Director of Quality Improvement General Classrooms Educators and Ministry of National Education Baedhowi in the description of the press at the Ministry of National Education, Monday (23/11) in the online newspaper *tempo.co,* He stated "The Ministry of National Education presents an increase in the number of honorary teacher in the last two years. The increase of the number of teacher is the amount of approximately 260 thousand in 2 years. The increase took place on public school teacher from 2.34 million (2007) to 2.67 million in (2008). In addition, there are a lot of honorary teacher. This dues to

the bright prospect of the teaching profession and guaranted by the Government, the chances of the teaching profession and teachers welfare incentives that are reliable".

The increasing number of teachers are also affect the increasing math teachers. During the last ten years an increasing number of mathematic teachers according to the data of *Musyawarah Guru Mata Pelajaran* (*MGMP*) Mathematics subject level Junior High School (*SMP*) Surakarta have elevated quite high (Agus Budi: 2012). The number of mathematics teacher according to data of *MGMP* Mathematics Surakarta with the sex ratio further members is presented in the form of the following charts:

Figure 1.1



Source: MGMP Mathematics Surakarta 2012

Muhammadiyah University of Surakarta (UMS) as one of the organizers of teacher training programs provides considerable opportunities for prospective students who are interested in on teacher training programs. Mathematics education department as one part of the program of teacher training in UMS get enough attention by prospective students after majoring in department of teacher education elementary schools (*Pendidikan Guru Sekolah Dasar*) and English language education (Kasiman: 2012). According to the data from the Bureau of Academic Administration (BAA) UMS about the number of students of the Faculty of Teacher Training and Educational Sciences (*FKIP*) particularly mathematics education departments from year to

year has increased that fluctuate, depending on the number of new student admissions quotas.

There is an interesting phenomenon on increasing student interest in mathematics education departments. Most students interested in mathematics education department actually are female students. From the data of BAA UMS mentions that in 1982, the percentage of female student in mathematics education department UMS only 21,43%, in 1987 the percentage rose to 46,67% and 78 % in 2012.

From the description above, it can be concluded tentatively that the growing number of female students who entered in mathematics education department, it will be more and more also a number of graduate female students of mathematics education department. Moreover, it will affect the large number of female mathematic teachers. However, this conclusion is inversely proportional to the data from General Director of *PMPTK* Director of Education, up to the year 2008, the number of mathematics teacher who is still active in Indonesia is 98.082. This number includes private teacher, servants, and honorary at junior high school and high school. From these data can also be seen that the number of female mathematics teachers in the field less than male mathematics teachers. The comparison is 54: 46. As for the Central Java, the comparison between both of them is 53: 47 (*http://tiaraanggresiya. wordpress.com /2012 /01/ 12/ pkm- porientasi – profesi – guru - matematika-ditinjau-dari-gender/*).

Based on the background of the issues above, in this study the researcher will examine why the number of female mathematics teacher less than the number in male mathematics teacher. In addition, researcher also will examine the cause factors of female graduate of mathematics education department of UMS not become mathematic teachers, as well as what the profession more attractive by female graduates programs of mathematics education department in UMS else as mathematics teacher.

2. Literature Study

a. Professional Mathematics Teacher and Gender Perspective

1) Professional Teacher

Mahmud (2012: 103) explains, the professionalism, the teacher is an academic position which has task as educators. Educators are professionals in charge of planning and carrying out the process of learning, assessing learning outcomes, coaching and training, and exacting research, and community service (National Education System Law No. 20 of 2003, Chapter XI of Article 39 Paragraph 2). Teachers as different professional educational staff work with others. Since, he is a professional in carrying out its duties and functions (Rusyan, 1990: 5) in Mahmud (2012: 103).

2) Gender Perspective

Meanwhile, in the Women's Studies Encyclopedia explains that gender is a cultural concept that seeks to make a difference (distinction) in terms of the role of behavior, mentality and emotional characteristics between men and women who thrive in society. Macdonal, Sprenger and Dubel (1999) in Muthali'in (2001:21) states that a lexicon of gender identity or grammatical classification which serves to classify an object groups. This classification is largely related to the two sexes, each category is often formulated with feminine and masculine.

b. The Perception of Mathematics Teacher

The perception of mathematics teacher is processing information from the environment in the form of stimulus, received through the sensory organs and transmitted to the brain to be selected, organized in the form of interpretation leading to an assessment of of sensing or previous experience of the intricacies of the profession of a teacher of mathematics. The perception is the result of interaction between individuals outside world (environment) with the experience

of individuals who have internalized a sense organ of sensory system as a liaison, and interpreted by the nervous system in the brain.

c. Mathematics Education Department Program of Higher Education (University)

1) Higher Education (University)

Higher education is a unit of higher education, namely education above secondary education, which includes education program diploma, bachelor, master, specialist, and doctoral degrees, Markum (2007: 19). Markum adding that everything about the college such as forming or establishing, organizing, and overseeing the implementation of higher education set out in legislation.

2) Mathematics Education Program

The program of study is the incumbent operator class curriculum evaluation with a comparison with other university curriculum. In Law no. 12 in 2012, Article 33 about high education, program of study must have a curriculum and teaching methods appropriate to the educational program, and organized with the permission of the Minister after meeting the minimum requirements for accreditation. Mathematics Education department is unity education, learning, and organizing classes for students math education department.

d. Female Students

Female students are students who are female-sex (Big Indonesian Dictionary: 1989). Students themselves can be simply defined as a group of people to high levels of formal education. Yahya Ganda (1987: 10) says that 'students are defined as students studying higher knowledge, which at this level they are considered to have the physical maturity and extensive development of

thinking, so that the surplus value they can have the awareness to determine his attitude and be able to responsible attitudes and behavior in scientific discourse ".

e. Undergraduate Interest In Choosing A Career

1) The Definition of Interest

According to Slameto (2003: 180), interest is a willing for a thing or event, without being told. Interest is basically a relationship between the acceptances of you with something outside of themselves".

2) The Definition of Motivation

According to Purwanto (2007: 60) motif is a complex expression in an organism's behavior or actions directed to a purpose or incentive. Hoy and Miskel (1982) in Purwanto (2007: 72) argues that motivation can be defined as the complex forces, drives, needs, statement of tension (tension states), or other mechanisms that initiate and maintain the desired activities towards personal objectives.

f. The definition of career

According to Gibson et al. (2000) in his thesis of Edi Pringadi (2008) explained that a career is a set attitudes and behaviors related to experience and work activities over the course of one's life and a series of ongoing work activities. Thus, an individual's career involves a series of choices from a wide range of opportunities.

g. Relevant Research

Research Muhson Ali, and friends in the Journal Economic, volume 8, Number 1, April 2012 under the title "*Analisis Relevansi Lulusan Perguruan Tinggi Dengan Dunia Kerja*" give the conclusion that the study found there were 6% of graduates who have not worked, but there were some respondents who decided not work due to go to college so that S2 is not categorized as a labor force. So there are only 4.8% of

graduates who have not been absorbed in the labor market, the remaining 95.2% of graduates of Economic Education Department has been absorbed in the job market.

Research from Piotrowski, Chris Hemasinha, and Rohan in the journal titled "Career development (Educational aspects) Mathematics (Study and teaching)" March, 2012 Source Volume: 46 Source Issue: 1 concludes: "Our results reflect a couple of interesting findings that were largely unexpected. First, based on a plethora of research studies that report underrepresentation of women in the field of mathematics; our sample saw a slight majority of female mathematics majors (females, 52%; males, 48%). This calls into question the position that girls and women are, for myriad reasons, diverted from academic interest in mathematics (Watt & Eccles, 2008). Second, in our sample, minorities of the mathematics majors plan to pursue fulltime employment solely (25%) and only 20% plan to attend graduate school fulltime solely, whereas 55% of our samples intend to both find a job with their mathematics degree and pursue graduate studies at the same time.

3. Research Method

This study used an descriptive qualitative research. Descriptive research is research that is used to describe, explain, and answering questions about the phenomena and events that occur at this time. This research is conducted for female student graduate of mathematics education department of Muhammadiyah University of Surakarta that do not work as a mathematics teacher at grade Junior and Senior High School. The time of this research is from January - February 2013.

Subject in this research choosing by purposive sampling technique, namely by selecting informants or respondents are deemed to know and can be trusted to be a data source that precise as well as knowing the problem of study in depth. The subject in this study are female graduates of Mathematics Department, Muhammadiyah University of Surakarta who have graduated in

2001, 2006, 2009, 2011 and 2012 period. While the sample taken using snowball sampling department about the existence of the alumni database. Methods of collecting data used in this study are questionnaire, interview, and documentary study. Data analysis techniques used in this research is the analysis of qualitative data, with Miles and Huberman models. Validity of data used is triangulation of technique and source.

4. The Result of Research and Discussion

Description of the research results obtained from the questionnaire and interview to female graduates of Mathematics Education Department Muhammadiyah University of Surakarta who have graduated in 2001, 2006, 2009, 2011 and 2012 period. The research was able to collect descriptive data on the tendency of female graduates of department of mathematics education of UMS not become mathematics teacher, especially at the Junior and Senior High School.

The perception of female graduates of department of mathematics education of UMS about the profession as a mathematics teacher and other profession is variety. Female graduates have the perception that the profession or career is not to be linear with the educational background ever obtained, notably mathematics education. Undergraduate mathematics education does not have to be a math teacher in a school institution, but could pursue other professions.

Based on the collected questionnaires and interviews with female graduates, researchers obtained two factors making female graduates of department of mathematics education of UMS tend to be linear in choosing a career that is external factors.

The external factor is a factor that comes from outside, there are outside factors that predispose a person to do something. External factors that affect mathematics education graduates UMS does not work as a mathematics teacher can be divided into five factors, namely:

(1) Other person influence factors

Oterh person influence factors which have effect to female graduates of department of mathematics education of UMS who not become mathematics teacher are parent and housband.

(2) Financial income factors

Financial income factor is a factor that is very exciting to be a reason for someone to choose a job. The higher salaries offered by an agency, it will be more and more people who are interested in applying to register the work.

(3) GPA, academic backgrounds and individual skill

GPA and academic background are not so influential because of female graduates who were respondents in this study is quite competent in mathematics. Character and professionalism in a person in the work take precedence over the GPA and educational background.

(4) Job applicant competition and availibility of jobs vacancies factors

The number of job applicants and lack of availability of job vacancies in Indonesia is a fairly complicated problem and a national problem the Indonesian government in reducing unemployment. The high number of graduates each year in high school and university, further increase the number of educated unemployed in Indonesia.

(5) Gender factor.

Gender differences do not affect the female graduates to get the job he wanted. Similarly, professional learning, especially math teachers, women also contribute to be part of the profession.

5. Closing

a. Conclusion

The conclusions of the factors that making female graduates of department of mathematics education of UMS from several different periods of the year ie 2001, 2006, 2009, 2011 and 2012 as follows:

1) External factors implies that there are several factors that influence female graduates to choose a job other than as a teacher of mathematics. From these factors it is clear that the gender factor had no influence on graduates in obtaining jobs.

2) UMS Female graduates mathematics education focuses not only as a teacher of mathematics, but can work in a variety of agencies other than math teachers.
3) Job opportunity and financial income (sallary) offered much influenced female graduates in choosing careers.
4) Gender factor have not effect for female graduates to choose their careers

b. Suggestion

Based on the results of qualitative research is descriptive in describing the factors that making female graduates of department of mathematics education of UMS not become mathematics teacher, presented a number of suggestions as follows:

1. To the UMS Female graduates Mathematics Education Department

   Based on the results of research on the factors that making female graduates of department of mathematics education of UMS, the opportunity to work in addition to being a teacher of mathematics that are many and varied, both male and female. Employment opportunities are offered very much. Individual ability, desire and never give up serious is the main capital to obtain the desired job.
2. To the Mathematics Education Faculty of UMS

   For mathematics faculty of UMS mus can to organize the female graduates, the majors should be more serious for the female graduates record. In addition, the department needs to develop students who are still active in their skills expertise to get involved in the world of work, not only in terms of academic.

3. To the Next Researcher

   It should be recognized that this study is not perfect, that is still less detailed and the factors that affect the number of respondents. To that end, the researchers in the fields of mathematics, especially related to the teaching profession can do similar research but with a focus on a more detailed and better quality.

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